



Jane Pit, Workington

Assessment Report for a Community Excavation

Edward Caswell, Chris Casswell and Manda Forster

Jane Pit, Workington
Archaeological Assessment Report

Prepared on behalf of:
Workington Town Council

Compiled by:
Edward Caswell, Chris Casswell and Manda Forster

DigVentures

The Workshop
Victoria Yard
26 Newgate
Barnard Castle
DL12 8NG

hello@digventures.com

0333 011 3990

@thedigventurers



Purpose of document

This document has been prepared as an Archaeological Excavation Report for Workington Town Council and Historic England. The purpose of this document is to provide a comprehensive account of archaeological investigations carried out by DigVentures in 2018 at Jane Pit, including the results of fieldwork, specialist reporting and recommendations for further investigation and analysis. It is supported by an easily accessible online database of all written, drawn, photographic and digital data.

DigVentures accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared. DigVentures has no liability regarding the use of this report except to Workington Town Council.

Carbon Footprint

A printed copy of the main text in this document will result in a carbon footprint of 99g if 100% post-consumer recycled paper is used and 126g if primary-source paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

DigVentures is aiming to reduce its per capita carbon emissions.

Copyright

© DigVentures Limited 2018

Project summary

DV project code and type	JNP18 Community Excavation
National Grid Reference	NX 99522 27778
County	Cumbria
National Heritage List for England	1017559
Title:	Jane Pit, Workington: Archaeological Assessment Report
Author(s):	Manda Forster MCIfA Chris Casswell MCIfA Edward Caswell
Origination date:	04/06/2018
Circulation:	Workington Town Council, Historic England and DigVentures project team
Reviewed by:	Brendon Wilkins MCIfA
Approval:	Lisa Westcott Wilkins MCIfA



Executive summary

DigVentures was commissioned by Workington Town Council to undertake a community-based archaeological research project at Jane Pit, a 19th century coal pit, as the first stage of a larger proposed research programme. The wider project aims to commemorate the contribution of mining to the town's history and development, working with community members and volunteers to explore and interpret the archaeology and social history of the period. This report details the results of the fieldwork excavation undertaken between 19th April 2018 and 1st May 2018. In addition to the archaeological results, a series of recommendations for a subsequent stage of work are included. Proposed activities are designed to build on the successes of the 2018 season, responding to feedback from participants and the clear need and demand for further opportunities.

Jane Pit, a 19th century coal pit (National Heritage List Entry: 1017559), provides the focus of both the archaeological investigation and commemoration. Scheduled Monument Consent was granted by Andrew Davison (Historic England), acting under direction from the Secretary of State for Culture Media and Sport for the 2018 field season. The overarching aim of the fieldwork was to provide baseline information to contribute to the future management, research and presentation of the site, creating multiple educational and participatory learning experiences for community participants. It targeted three areas of the site, a potential horse gin, the pit's access ramp and retaining wall, and the location of Frostoms cottages. A fourth trench targeting the location of Holyoak Farm had been planned, however soil contamination identified prior to excavation prevented its excavation.

This report presents results from the first season of fieldwork, incorporating specialist assessment and results from a standing building and earthwork survey. The potential of these results to achieve the Aims and Objectives of the project are discussed in the final section of this report, followed by detailed recommendations for further field work, analysis and publication.

Results Summary

Fieldwork was undertaken in April and May 2018 to address a series of research questions which focused on features identified on historic maps. This involved a programme of targeted interventions designed to investigate the earthworks and standing remains on the site, alongside a photographic standing building and earthwork survey. The site was excavated by DigVentures with a team of community volunteers, with open access for visitors and an education programme involving local schools.

All data collected was recorded by community participants using a web accessible relational database. This is housed on the project microsite (<https://digventures.com/jane-pit>) and can be explored by following the links shown in green font throughout the report. In addition, excavated features are also navigable through a series of nested 3D models, from the landscape level down to individual test pits and trenches: <http://ow.ly/zW9g30I7cPV>

Three machine-excavated trenches were opened at the site of Jane Pit with archaeological features being identified at each of their locations. Trench 2 targeted the circular earthwork identified as a horse gin and was located in the southern area of the scheduled monument. Excavations were unable to confirm the function of the surrounding earthwork as features were buried beneath significant layers of brick, rubble, clinker and eroded soil from the bank. Trench 3 was positioned over the location of a ramp and associated retaining wall leading up to the



pit, which is visible on a photograph taken of the site in the late 19th century. Despite heavy disturbance due to landscaping in the 1970s, the edge of the retaining wall was extant and successfully identified. This survived as a linear arrangement of ashlar stone blocks bonded with a rough limestone mortar that was at least four courses tall and is likely to have been at least two courses thick. Jane Pit's access ramp was found on the southern side of the wall, having been built up against the original upstanding wall. Trench 4 targeted the buildings northeast of the site labelled as Frostoms Cottages on historic mapping. Two stone-built foundation walls were found in association with an outside cobbled yard surface and potentially the edge of the cottage's interior. A vertical standing drainage pipe was also recorded, indicating that this was probably the outside privy associated with building.

A significant aim of the project was to engage local and global audiences with the archaeology of Jane Pit and Workington. Across the excavations 190 Key Stage 2 school children were given site tours while 150 members of the public visited the dig at Jane Pit. Coverage of the excavation was shared on national television, within local newspapers, and at open talks hosted by the Helena Thompson museum. Digital coverage was also extensive, with the project timeline sharing daily experiences of the project team. The project was extremely successful in demonstrating the extent of local interest in understanding more about the site as well as in participating in research relating to the site.

As the project moves into its second stage, a series of recommendations are provided which outline proposals for the investigation of the archaeology at Jane Pit. These proposals refer to the opportunities presented both through the excavation itself and highlight a number of activities which could run alongside, such as the development of a virtual museum, delivery of skills workshops and embedding social history research into the site archive. This combined approach intends to provide multiple paths for participants to engage with the project, raising awareness to the nationally important site and the industrial heritage, and encouraging new audiences to step up and get involved with Workington's archaeology and history.

Acknowledgements

We'd like to begin with a sincere thank you to the Heritage Lottery Fund, Workington Town Council, Workington Heritage Group Ltd and the Jane Pit Project team for such an exciting commission, and particular thanks to the Allerdale Borough Council for making this project possible. Particular thanks to Chris Bagshaw, Workington Town Clerk; Alison Saxby, Estate Team Leader; Joe Copsley, Senior Estate Worker; Amelia Nicholson; the team at the Helena Thompson Museum, all the staff at the Workington Army Reserve Centre, and Andrew Davison, Principal Inspector of Ancient Monuments North West, for helpful guidance and advice. The project was managed for DigVentures by Manda Forster, with Lisa Westcott Wilkins in the role of Project Executive, supported by Chris Casswell, Edward Caswell, Johana Ungemach, Harriet Tatton and Maiya Pina Dacier.

Final thanks must go to our community of Venturers – without whom this work could never have taken place: Sarah Carter, Lynn Carter, Laura Caygill-Lowery, Jennifer Darglish, Andrea Dunsmoir, Simon Fielder, Mark Gascoigne, Emma Gibbon, Jack Gibbon, Rachel Holm, Betty Kent, Philip Logan, Julie Logan, Kim Moore, Carol Pettit, Thomas Pettit, John Reynolds, Paul Robson, Kai Smith-Wood, Brandon Smith-Wood, Emma Stephenson, Robin Stewart, Marty Strutt, Elly Todhunter, Cameron Wallace, Louise Wallace, Olivia Wallace, Kian Wells and Charles Wood.



Table of contents

1	INTRODUCTION	8
1.1	Project Background	8
1.2	Project scope	8
1.3	Site description	9
2	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	10
2.1	Research context	10
2.2	Summary of previous work	11
3	PROJECT AIMS & OBJECTIVES	11
3.1	Background	11
3.2	Aims	11
3.3	Public engagement and impact	12
4	METHODOLOGY	13
4.1	Project model	13
4.2	Standing building and earthwork survey methodology	13
4.3	Excavation methodology	13
4.4	Health and safety	14
5	EXCAVATION RESULTS	14
5.1	Introduction	14
5.2	Standing building and earthwork survey (Figure 2)	14
5.3	Stratigraphic sequence	15
5.4	Trench 2 – Horse gin (Figure 4)	16
5.5	Trench 3 - Ramp and retaining wall (Figure 5)	16
5.6	Trench 4 - Frostoms Cottages (Figure 6)	17
6	ARTEFACTS	18
6.1	Introduction	18
6.2	Assemblage summary	18
6.3	Recommendations and archive	19
7	PUBLIC IMPACT AND ENGAGEMENT	20
7.1	Introduction	20
7.2	Excavation volunteers	20
7.3	Schools programme	21
7.4	Public access	22
7.5	Digital and media	22
7.6	Unexpected creative outputs	23
8	DISCUSSION	23
8.1	Introduction	23
8.2	Project aim 1	23
8.3	Project aim 2	24
8.4	Project aim 3	25
8.5	Project aim 4	26



9	CONCLUSIONS	26
10	RECOMMENDATIONS	26
10.2	Archaeological excavation and metric survey	27
10.3	Public participation and learning	28
10.4	Mine the archives	28
10.5	Creating a virtual museum	29
10.6	Tales of the Pit: embedding oral histories into the site archive	29
10.7	Education, schools and young adults	30
12	BIBLIOGRAPHY	31
13	APPENDIX 1 – TRENCH AND CONTEXT DESCRIPTIONS	32
14	APPENDIX 2 – THE FINDS ASSEMBLAGE	40
Appendix 2.1	Glass	40
Appendix 2.2	Metal	40
Appendix 2.3	Ceramic	41
Appendix 2.4	Building Materials	42
Appendix 2.5	Stone	42
Appendix 2.6	Other	43
Appendix 2.7	Animal bone	43
15	APPENDIX 3 – SCHOOLS ACTIVITY SHEET	44
16	APPENDIX 4 – COMMUNITY PHOTOS	45

List of figures

Figure 1: Site location

Figure 2: Standing building and earthwork survey results

Figure 3: Trench locations

Figure 4: Trench 2 excavation results

Figure 5: Trench 3 excavation results

Figure 6: Trench 4 excavation results

Figure 7: Proposed areas of future archaeological investigation



1 INTRODUCTION

1.1 Project Background

1.1.1 In 2017 Workington Town Council (hereafter 'the Client') commissioned DigVentures to undertake an initial community-based archaeological research project at Jane Pit (hereafter 'the Site' – Figure 1). The archaeological project was designed as the first stage of the proposed HLF Funded *Jane Pit Project*: <https://www.workingtontowncouncil.gov.uk/janepitproject>. The wider project aims to commemorate the contribution of mining to the town's history and development, working with community members and volunteers to explore and interpret the archaeology and social history of the period. Jane Pit, a 19th century coal pit (National Heritage List Entry: 1017559), provides the focus of both the archaeological investigation and commemoration.

1.1.2 Following consultation with Historic England, a Project Design (Forster *et al* 2018) was developed in line with the MoRPHE framework (Historic England 2006). This provided the research aims and methodology used to deliver a field research project, encompassing an excavation and assessment stage. Scheduled Monument Consent was granted by Andrew Davison (Historic England), acting under direction from the Secretary of State for Culture Media and Sport for the 2018 field season. Fieldwork took place between 19th April and 1st May 2018 (DigVentures Project Code: JNP18). An assessment of the results is presented here, and have been circulated for peer review and consultation with the wider project team.

1.1.3 This report is one of a number of archive and dissemination products generated by the project, including the digital archive and metadata, the paper archive and the artefacts recovered and recorded. All archive material is currently held by DigVentures and will, when the project is complete, be deposited with the landowners and freely disseminated through Lancashire County Council Historic Environment Record, Archaeological Data Service (ADS), OASIS portal and the project microsite (<https://digventures.com/jane-pit>).

1.2 Project scope

1.2.1 Workington is one of the only towns in Cumbria which experienced significant urban growth prior to the 20th century, where other towns in the region have retained their medieval layouts. This growth is directly linked to the coal and steel industries, and the social, environmental and economic impacts of that growth within the wider context of the town and region are key areas of interest. The wider project seeks to celebrate the contribution coal has made to the town and raise awareness to the importance of the site at Jane Pit.

1.2.2 Jane Pit has been highlighted as a key site within the group of Cumbrian collieries situated along the coast (Palmer *et al* 2012, 133). Most uniquely, the technological developments of the industry remain visible at the site, and have been suggested to show an evolution from using horse powered to steam powered winding (*ibid.* 133). The pit (list entry 1017559) provides a rare example of a horse gin and a steam engine at the same site, the latter housed in an elaborate engine house, to lift the coal and overburden, but also to pump water from the mine. The very visible remains of Jane



Pit include two chimneys and an engine house, displaying an ornate castellated style. Both the Engine House and the detached chimneys are listed as Grade II listed buildings with historic England (Engine house: [1144482](#); detached chimney: [1138109](#)).

- 1.2.3 The overarching aim of this stage of the project has been to define and characterise the physical extent of the site through a programme of non-intrusive investigation and intrusive excavation. Three interrelated research themes were identified at the outset of the project (Forster 2018) which aimed to evaluate the survival and significance of archaeology relating to the pit and possible worker's cottages, and the contribution that archaeological evidence could provide to a broader understanding of the coal industry in Workington. The combined results are presented in this report, and include the baseline data needed to inform the next stage of archaeological research and to further define opportunities for engagement and participation from local community members and wider audiences.

1.3 Site description

- 1.3.1 Jane Pit is located southwest of Workington town centre, south of Annie Pit Lane and west of Mossbay Road (NGR NX 99522 27778). The town itself lies on the west coast of Cumbria, situated at the mouth of the River Derwent on the West Cumberland Plain approximately 30km west of Keswick and 50km southwest of Carlisle. The land Jane Pit occupies is now predominantly flat. Its underlying geology is made of the Pennine Middle Coal Measures Formation comprising coal, mudstone, siltstone and sandstone formed in the Carboniferous Period, while superficial deposits in the area are of glaciofluvial origins comprising Devensian sand and gravel (BGS 2018).
- 1.3.2 The site is owned by Allerdale Borough Council, currently leased to and managed by Workington Town Council. The remains of the pit and its immediate surrounding are in the guardianship of the secretary of State and managed by Historic England (List Entry Number: 1017559). The scheduled monument comprises the roofless remains of a winding engine house, two chimneys, the footings of other buildings, an earthwork circle thought to be a horse gin, a sealed mine shaft, and the buried remains of ancillary buildings known from 19th and 20th century maps to have been located to the west of the winding engine house. The site is made most visible by its still-standing chimneys and three storey oval pumping engine house all with a battlemented parapet described as a 'quasi-feudal expression of family pride' (Hyde and Pevsner 2010, 702).
- 1.3.3 The area of Jane Pit and its surrounding fields were landscaped in the 1970s. This activity has flattened the majority of earthworks outside the immediately scheduled area of the pit and filled in depressions relating to this activity. As such, few earthworks remains outside the immediately scheduled area barring a weathered slope to the east. This remaining, now flat space, is used a recreational field that is maintained as open lawn. At the eastern edge of this lawn, near to the location of the now demolished Frostoms Cottages is an area of shrubbery and trees forming a border running north to south parallel with Mossbay Road.



2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Research context

- 2.1.1 The exploitation of coal in and around Workington has a long history, with the Curwen family playing a large part in developing the coal industry within the town from at least the mid-18th century. Coal was worked and exported from Workington in the 17th century, but it is the later and more intensive development of the coal and iron industries on which the town is founded. Between 1730 and 1740, the Curwens of Workington Hall opened four pits, Union Pit, Moorbanks Pit, Hunday Pit and School House Pit (Fletcher 1878, 297). Additional pits belonging to the Chapel Bank Colliery exploited undersea seams and were worked from the 1770s. By 1802, the industry peaked with 65,309 tons of coal exported by the Workington collieries (Wood 1988) but within ten years it was experiencing decline. The end of the Napoleonic wars, combined with increased competition from Scotland and Wales, saw a steady shrinkage of coal exports from the early nineteenth century and by 1851, exports had been reduced to 20,000 tons (Wood 1988).
- 2.1.2 Despite this decline, further explorations did result in new pits being established into the mid-19th century. Buddle Pit was sunk in 1837 and in 1843 the sinking of Jane Pit commenced (Quartermaine 2016, 14). The discovery of a rich seam of coal at Jane Pit in 1846 was much celebrated and the wealth of the new seam provided a period of optimism and hope for the future of the town. The working of the mine was relatively short lived, closing in 1875, but it was in production longer than many of the others in this part of the coalfield, such as Annie Pit and Buddle Pit. Although the map evidence from early Ordnance Survey post-dates the closure of the pits, a reasonable amount of detail is present regarding the location of the shafts, the engine house, chimneys, a possible reservoir, a track or tramway and the horse gin circle (see for example, Davies-Shiel and Marshall 1969, 117). Later maps indicate that remodelling of the site took place towards the end of the 19th century, which may relate to documented (though unfulfilled) plans to re-open the pit in 1892. Subsequent to the abandonment of the mine, housing developed along the opposite side of the road, with the area immediately around Jane Pit and Buddle Pit now landscaped to accommodate a rugby ground and football pitch (see Figure 1).
- 2.1.3 Prior to the development of the colliery, a small group of buildings near to the site of Jane Pit is shown as *Frosthams* on Greenwood's map of 1824. Later written Frosthams, census records from 1851–1871 list four to five cottages here occupied by coal miners, agricultural workers or ship hands and their families. A group of cottages, presumably those listed, are visible to the northeast of the pit on the 1867 1:10,560 OS map, with an additional cottage and yard to the south. Those to the northeast are thought to have later been known as the Holyoak Farm. Buildings remain visible at both locations into the 20th century, though they are substantially modified. An aerial photograph of the site taken in 1949 shows Frosthams cottages and Holyoak Farm to be in use, though later mapping indicates that the cottages were demolished between 1970 and 1973.
- 2.1.4 There has been no invasive archaeological work undertaken in the vicinity of the site, and only a small number of single finds attest to prehistoric and Roman activity. Workington itself was established by at least the fourteenth century when a fortified



manor house is thought to have existed at the site of the current Workington Hall. A small harbour was home to a handful of fishermans cottages and an upper town was located on the hill. The Norman Church of St Micheal was situated between these two areas and excavations at the site suggest an earlier church was located close to the site of St Micheals from the 10th century.

2.2 Summary of previous work

2.2.1 A rapid archaeological survey of the standing remains and visible earthworks was undertaken in 2016 by Oxford Archaeology North (Quartermaine 2016). The survey recorded eight extant features, providing a detailed description in the report and a site gazetteer. The survival of mining remains at the site was found to be mixed. There is good survival of the chimneys and engine house, elements which are clearly visible as standing structures today. Earthworks are visible in the immediate proximity of the standing structures, and surface undulations to the northeast line up well with features such as a retention wall and the sealed shaft.

2.2.2 The site has been extensively landscaped to accommodate a football pitch south of the mine remains. Spoil heaps to the south of the pit have been removed and the archaeological survey results suggest that potential for the survival of mining remains in this area is minimal. Landscaping has also been undertaken to the east and north of the standing remains, although to a lesser extent. While degradation of the surviving structures and features has certainly occurred, below ground archaeology relating to the pit is evident from earthworks. This contrasts with the location of Frostoms cottages which, despite being demolished relatively recently (in the 1970s), are not detectable as surface remains today.

3 PROJECT AIMS & OBJECTIVES

3.1 Background

3.1.1 The aims and objectives articulated below were defined in the Project Design for this stage of research (Forster *et al.* 2018). The business case for this work has been designed in accordance with the fundamental principles of Historic England's Strategic framework for the Historic Environment Activities and Programmes (SHAPE) (*ibid.* 12).

3.2 Aims

3.2.1 The overarching aim of the project was to define and characterise the physical extent of the site through a programme of non-intrusive investigations and intrusive excavation, obtaining baseline data that will facilitate its future management.

3.2.2 Aim 1 – Identify the physical extent and character of the Jane Pit heritage asset in its environs

- Q1. Can the layout of the Pit and any associated subsurface archaeology be determined by remote survey?



- Q2. What are the topographic anomalies visible within and around the site, and how do these features relate to the Pit workings?
- Q3. To what extent can the location of domestic buildings, Frostoms Cottages and Holyoak Farm, be determined from map evidence and aerial survey?

3.2.3 Aim 2 – Understand the layout of Jane Pit, Frostoms Cottages and Holyoak Farm

- Q4. Can we corroborate chronological phasing for the site, including the presence of earlier and later features and structures, as defined in Aim 1?
- Q5. What are the typical and atypical features of the Pit and what can they tell us about industrial activities and technology used at the site?
- Q6. To what extent do the archaeological remains at Frostoms Cottages and Holyoak Farm survive, and what is the potential of these buildings to inform a greater understanding of everyday life for workers at the Pit?

3.2.4 Aim 3 – Understand the site’s archaeological conditions

- Q7. What is the current state of the archaeological and palaeoenvironmental material across the site?
- Q8. How well do deposits and artefacts survive, and how deeply are they buried?
- Q9. What is the range and spatial patterning of artefacts recovered from the site, and can this inform our understanding of everyday life at the Pit?
- Q10. Can we increase our understanding of domestic buildings, especially workers housing associated with the site?

3.2.5 Aim 4 – Making recommendations, analysis and publication

- Q11. What can an integrated synthesis of the results of this work with previous studies of contemporary regional sites tell us about the site and its setting?
- Q12. What further research can be undertaken at the site to further contribute to the story of Workington and the coal industry?
- Q13. What recommendations can be made to protect, conserve and enhance Jane Pit, in the light of the issues and opportunities identified under Aims 1 - 3?

3.3 Public engagement and impact

3.3.1 In addition to the archaeological research aims, achieving public engagement and benefits for the local community have been key targets embedded within the Jane Pit project. On the basis of the project brief, the desired outcomes for public engagement and participation in this stage of the project constituted a fifth aim that included targets to:

- training and supporting volunteers in archaeological excavation and recording
- engaging school children with an embedded education programme
- making the site accessible to visitors over the course of the field project
- reaching wider audiences through digital engagement with project microsite
- providing full access to the archaeological results

3.3.2 In showcasing the excavation of Jane Pit the project has engaged both local and global audiences in order to ensure the future preservation and management of the



site. A summary of the project's effectiveness in meeting these aims can be found in Section 7.

4 METHODOLOGY

4.1 Project model

4.1.1 The archaeological fieldwork was carried out in accordance with the methodology defined in the Project Design (Forster *et al* 2018). All work was undertaken in conjunction with best practice, national guidelines and published standards (ClfA 2014). Methodological summaries are presented below, following detailed descriptions in the Project Design linking specific techniques to aims and objectives (*ibid*, Section 10).

4.2 Standing building and earthwork survey methodology

4.2.1 A standing building and earthwork survey was undertaken on 27th April 2018, involving the photographic recording of buildings and topographic anomalies visible on the site of the pit workings. All features targeted for the survey had been identified during a previous non-intrusive investigation of the site (Quatermaine 2016). The purpose of this survey was to engage and familiarise participants in how the pit may have functioned, placing the excavation in context.

4.2.2 Features were photographed with an iPad and uploaded directly to DigVentures Digital Dig Team recording system. Digital Dig Team is DigVentures' bespoke, cloud-based, open data recording platform, designed to enable researchers to publish data directly from the field using any web-enabled device (such as a smartphone or tablet) into a live relational database. Once recorded, the born-digital archive is instantly accessible via open-access on a dedicated website, and published to social profiles of all project participants (community, professional and specialist). All features were recorded as Trench 1 and assigned a unique context number between (1001) and (1008).

4.3 Excavation methodology

4.3.1 Excavation took place between 19th April 2018 and 1st May 2018 and involved excavation of three trenches. All trenches were marked out on the ground using a survey grade GPS prior to the commencement of work, and initially scanned for surface finds by eye prior to excavation. Trenches 3 and 4 were initially de-turfed by hand and Trench 2 was cleared of surface debris. All trenches were excavated by machine using a 1T mini-digger fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon, under the constant supervision of an experienced archaeologist.

4.3.2 Trenches were hand-cleaned, planned and photographed prior to hand-excavation. Archaeological features and deposits exposed were excavated to determine their nature, character and date. Carefully chosen cross-sections were then excavated through features to enable sufficient information about form, development, date and stratigraphic relationships to be recorded.



- 4.3.3 A complete drawn record of the trenches comprises both plans and sections, drawn to appropriate scales and annotated with coordinates and AOD heights. A single context recording system was used to record the deposits, and a full list of all records is presented in Appendix 1. Layers and fills are recorded with curved brackets (001), whilst the cut of the feature is shown [001]. Each context is prefixed with the relevant Trench number (ie Trench 1, 1001+, Trench 2, 2001+). Features have been specified in a similar manner, pre-fixed with the letter F (ie Trench 1, F101+, Trench 2, F201+).
- 4.3.4 All recording was undertaken using the DigVentures Digital Dig Team recording system. Links to all individual trench, feature and context records are provided in Appendix 1, from where all associated finds, samples, plans, sections, photographic records and 3D models can also be explored.

4.4 Health and safety

- 4.4.1 All work was carried out in accordance with DigVentures' Health and Safety Policy and in line with standards defined in *The Health and Safety at Work etc. Act 1974* and *The Management of Health and Safety Regulations 1999*, and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) manual *Health and Safety in Field Archaeology* (1996).

5 EXCAVATION RESULTS

Edward Caswell

All digital context and feature records have been archived on the Digital Dig Team system and can be reviewed here at <https://digventures.com/jane-pit> and by clicking on the links in the text. Records include context data, trench descriptions and images, including 3D models of each trench.

5.1 Introduction

- 5.1.1 During 2018 three small-scale evaluation trenches were investigated. The principle purposes for these intrusive investigations were to 'identify the physical extent and character of the Jane Pit heritage asset in its environs' (Aim 1), 'understand the layout of Jane Pit, Frostoms Cottages and Holyoak Farm' (Aim 2) and to 'understand the site's archaeological conditions' (Aim 3). Each trench was designed to address a specific research objective, and these are discussed with the excavation results below. Figure 3 shows the overall location of each targeted area, and Figures 4-6 provide illustrations of individual trenches containing archaeological features. Detailed descriptions of each and every context are included in Appendix 1, organised by trench number.

5.2 Standing building and earthwork survey (Figure 2)

- 5.2.1 In total, eight different topographically unique features around the working of Jane Pit were highlighted and targeted based on the results of a previous survey of the site (Quartermaine 2016). They range from the large extant remains of the engine house, down to undulations in the ground surrounding the Scheduled Monument; each giving an indication as to the original layout of the pit and how it may have operated.



- 5.2.2 To the south of the engine house was a roughly circular enclosure surviving as a well-defined earthwork 15m in diameter and almost 2m high, with a large opening on its northern side (1001). It has been suggested from historic mapping post-dating the use of the site as a coal mine that this was a horse gin pit surrounded by a wall within which a winding mechanism would have been placed for winching coal from the mine.
- 5.2.3 The extant remains of the engine house (1002) lay immediately to the north of the horse gin. This, probably the most distinctive feature surviving on the site, comprised a three-storey tower constructed from sandstone with crenulated parapet built on a large rectangular base. Built into the base of this structure on the southern side is an '1844' date-stone. On the western side of the engine house stands a sandstone chimney, also with a crenulated top. To the west of the engine house stands another, detached chimney with similar crenulated parapet around the neck of the chimney (1003). It stands on a square base that has two different designs of stokehole on the eastern and northern sides, and an inscribed stone 'E.S.C Esquire 1844' features in the centre of this base on the southern side. The remains of a rectangular building (1004) lie to the west of the freestanding chimney. This low-lying structure was obscured significantly by overgrown vegetation and human refuse at the time of the survey; therefore, its function or precise could not be ascertained.
- 5.2.4 Northeast of the engine house was a 2.5m diameter circular depression in the ground, interpreted as the old mine shaft (1005). Historic mapping and imagery shows that originally this would have been encircled by a large circular stone structure connected to the north to south aligned retaining wall that extended to the south. No indication of this structure has survived, although a curved stone built into the northern end of the retaining wall may mark the southern edge of the shaft.
- 5.2.5 Two 4.5m long, parallel east to west aligned sections of standing wall were found to the northwest of the engine house, both made from a mixture of bricks and concrete. The southern feature (1006) was up to 1m wide in places and extended from the northwest corner of the engine house, and the northern one (1008) was of a similar size. Their size suggests they were designed load-bearing and similarly positioned holes in the centre towards the base of the structures may indicate they supported an axle for a large winding wheel. Beyond the eastern boundary of the Scheduled Monument was an earthwork that extended in a straight line for 30m east of the engine house, then continued a further 20m to the northeast (1007). This was the location of a large retaining wall on the northern side of a ramp, its purpose believed to be for the establishment of a yard to the north where a wagonway would have enabled the import and export of materials to and from Jane Pit. No structural elements of the retaining wall were visible on the surface due to extensive landscaping in this part of the site.

5.3 Stratigraphic sequence

- 5.3.1 A common stratigraphic sequence was recognised across the site. All three trenches were covered by topsoil, although this was particularly shallow in Trench 2. Within Trenches 3 and 4 the topsoil and subsoil consisted of a brown silty clay which lay over the remaining archaeology while in Trench 2 it was a sandy silt, the difference likely being related to the differing consolidation and subsequent weathering of these two



groups. The stratigraphic sequence fluctuated in depth across the site predominantly due to natural height variation with the underlying sloping topography.

5.4 Trench 2 – Horse gin (Figure 4)

https://digventures.com/jane-pit/ddt/tch/JNP_2

5.4.1 Trench 2 measured 3m x 3m and targeted the circular earthworks identified as a Horse gin placed in the southern area of the scheduled monument. Initial attempts were made to remove the turf from this trench by hand using shovels and spades. However the topsoil was found to be too shallow for the integrity of any turfs recovered to be maintained.

5.4.2 The earliest layer encountered in this trench was a layer of compact silty sand (2008) that was yellowish brown in colour upon which was a 0.20m thick rubble layer (2006) of large boulders were loosely accumulated. This rubble layer appears to have been levelled by the pouring of a layer (2005) of crushed slag, or clinker, above it appearing as a dark red layer whose depth varied across the trench. A large oval pit, F201, was then cut into this layer.

5.4.3 This pit extended beyond the limits of excavation although Trench 2's location appears to have uncovered a quarter of it such that if the feature was uniform in form its diameter would have been 2.30m. The pit's base was not reached as it continued to a depth beyond which it was safe to excavate, but was at least 0.64m deep. It was filled with stone and brick rubble (2007), along with the earlier undisturbed remnants of crushed slag, or clinker (2005). This pit and the remaining area of the trench was then covered by a dark brown earth layer (2004) which was 0.24m thick, followed by a 0.06m thick layer of pebbles (2003). After this point loose soil from the earthwork rampart surrounding the gin appears to have slumped into the hollow leaving a layer of soil (2002) over much of the trench that varied in height from 0.42m, in areas closest to the earthwork, to 0.14m deep near the center of the gin.

5.5 Trench 3 - Ramp and retaining wall (Figure 5)

https://digventures.com/jane-pit/ddt/tch/JNP_3

5.5.1 Trench 3 measured 7.5m x 3m and was aligned north to south over the location of a ramp leading up to the mine and its retaining wall identified from historic mapping and imagery. The earliest feature identified was the east to west aligned retaining wall (3007) across the centre of the trench. It comprised ashlar stone blocks bonded with a rough limestone mortar. To the north of this and running for approximately 0.40m was an irregular spread of tumble of similar ashlar blocks. These are likely to have come from the same wall and have been dragged from the wall by the later landscaping of the area in the 1970s. Although only one stone thick (against the ramp), the position and state of the tumble (3008) to the north suggests that originally the wall would have been at least two stones thick. An exploratory sondage was made into the tumble to establish the state of preservation of the *in-situ* remains of the wall, and found it to be at least four courses in height.

5.5.2 The ramp (3006) was found on the southern side of the wall, having been built up against the original upstanding wall. It consisted of mostly thick light grey clay with



occasional large angular slate and mudstone inclusions. On the eastern side of the trench this layer had been displaced to the north, presumably the result of later landscaping, giving the impression that it was stratigraphically later than the subsequent event. On top of the tumble of the wall were two landscaping layers (3003 and 3004) that contained modern finds. Sealing these deposits was a layer comprising hard clay and stone likely to represent a consolidation layer prior to the establishment of a subsoil (3002) and topsoil (3001).

5.6 Trench 4 - Frostoms Cottages (Figure 6)

https://digventures.com/jane-pit/ddt/tch/JNP_4

- 5.6.1 Trench 4 measured 3m x 3m and targeted the buildings northeast of the site labelled as Frostoms Cottages on historic maps. This trench aimed to confirm if any below ground archaeology remained in this area. This trench was initially staked out using a GPS based on historic mapping of the area; however, when in the field these co-ordinates were found to place the trench within the wooded border of the park area. Following advice from a local resident (Graham Williams), who stated that the buildings were situated opposite the front window of the house he still occupies, the trench was then moved 8m to the north. This advice proved valuable as the trench, upon excavation, successfully identified numerous features relating to Frostoms cottages.
- 5.6.2 The earliest features identified in this trench were three foundation walls marking out the edge of an outside yard and potentially the western edge of the cottage's interior. One, F401, ran for 2.90m and was oriented northwest to southeast while the two others, F402, F403, ran northeast to southwest for 1.10m and 0.30m respectively. Two of these walls were 0.44m wide and were made of angular slabs and sub-rounded boulders, bonded by white yellowish mortar, although only one these, F402, showed stones which had been hewn to a regular finish. The remaining wall, F403, was not excavated to the same extent but appears to have been made of similar material and was bonded with the same white yellowish mortar. The base of these all three features was not reached during excavation although each survived to a minimum height of 0.10m.
- 5.6.3 Following the erection of these walls the yard appears to have been levelled and cobbled (4006, 4015) as made evident by a layer of rubble found within the southwest corner of the trench. This yard was partially divided by a further, albeit much smaller, wall F404, although the relationships of this feature and the cobbles was not resolved during this season's investigations. The smaller wall F404 was approximately 0.30m and 2.05m wide, which in effect created a sub space within the yard's eastern area approximately 0.60m wide and at least 2.00m long. A vertically standing drainage pipe F405 was found to be placed within the southern end of this bounded space making it likely that this was an outside privy associated with Frostoms cottages.
- 5.6.4 One further feature F406 relating to the use of the structure was identified within the trench's southeast corner. This was a square feature approximately 1m x 0.30m and had a lining made up of stones which surrounded a very dark brown soft silt with occasional small angular sandstone inclusions. This has been provisionally interpreted as a set pot, although further investigation is required to confirm/refute this assertion.



Evidence of the cottages' destruction was found above the majority of these features, barring F406, as a layer of red brick dust localised in the western half of the trench (4003).

- 5.6.5 The results from Trench 4 have highlighted that archaeological remains of Frostoms cottages are still intact and represent its construction, abandonment and destruction. The layers above this material were notable in their toughness and suggest that this area had been subject to significant landscaping down to foundation level following the cottages' destruction.

6 ARTEFACTS

6.1 Introduction

- 6.1.1 The finds assemblage recovered includes a range of materials reflecting the early modern use of the site at Jane Pit. Material found included ceramic, glass, animal bone, metal objects and material related to the mining activity at the site all of which dates from the 19th century onwards. The most numerous items were glass fragments, the majority of which were modern and related to activity post-dating the closure of the pit. Also found were significant quantities of building materials which included brick, mortar and concrete.

- 6.1.2 The artefact record provides an additional means to understand how the site has developed over time (Aim 2, Q4), as well highlighting the nature of preservation and survival of different materials at the site (Aim 3, Q7 and Q8) and, through detailed spatial recording and analysis, understanding of the use of everyday life at the pit (Aim 3 Q9) and its domestic buildings (Aim3 Q10). The location of all small finds were geographically recorded with details of each object added to the site database (see link below). Assessment of the full assemblage has been undertaken, and recommendations provided that will inform future research strategy and publication (Aim 4).

6.2 Assemblage summary

https://digventures.com/jane-pit/ddt/browser.php?item_key=rgf_cd

- 6.2.1 The majority of glass was found within the uppermost contexts, typically topsoil (3001) or subsoil (3002, 4002). The glass is likely the result of modern discard as glass refuse was not uncommon on the existing ground surface. One glass item was classed as a small find SF4. This was found on a cobbled surface (4006) in Trench 4 and was marked with the inscription WORKINGT (ON). It has been suggested this represents a milk bottle due to colour of glass and shape of its bottom. This small find was also found within the same context as a perfume jar, however both these finds have been identified within a context created during the landscaping of the site and so relate to activity following the mine's closure.
- 6.2.2 Only a few metal items were found across the site with small finds limited to a door latch SF2 and spanner SF3. The former may relate to the features found within Trench 4, for example as a latch to a privy. A large amount of material related to metal working was identified within Trench 2, this consisted of over 4.5kg of slag, clinker and ferrous



material. These were found in a layers placed across the entire trench and represent a purposeful backfilling episode at the site. While they are unlikely to relate to the mine's use directly, which was not used in the manufacture of metal, these items do provide context for its owners and its later use as a site for the desposing of waste.

- 6.2.3 Clay tobacco pipes were found in each of the trenches within contexts post-dating the pit's closure. One of these was marked but unidentifiable. A fragment of drainage pipe was identified within Trench 4 that is likely to have come from F405. the remaining ceramic material was found entirely within contexts relating to activity following the mine's closure.
- 6.2.4 Animal bones were found in all three trenches, predominantly within subsoil contexts (2002, 3001, 3002, 4002). Those that weren't, were located in contexts (2004, 2005, 3004) representing infilling episodes contemporary to the landscaping of the site. While a full faunal assessment has not be carried out on the assemblage, all remains recovered represented small animals likely to relate to farming activity at the northern end of the site following the pit's closure.
- 6.2.5 Bricks and mortar were identified across all three trenches. These were found in a particularly dense concentration within Trench 2 (2007). In this case the presence of these materials represent a recent episode of waste disposal probably from the demolition of a nearby structure.

6.3 Recommendations and archive

- 6.3.1 Whilst the recovery of a range of materials at the site is encouraging, the excavation of trenches effectively removed material associated with more recent development and use of the site, rather than its use as an active pit or the changes of use the site saw immediately after its closure. The faunal assemblage's dispersal across the site is reflective of the scale and extent of landscaping which has shifted remains relating to activity, based around Holyoak Farm, following the pit's closure. Although further investigation into the species present could add detail the nature of this activity, it will not inform the stated research aims of the project. Similarly, the brick dump has the potential to inform on the pit's use as a dispoal site following the pit's closure, but will not provide insight into industrial activities. Finds recovered within Trench 4 were alos associated with later infill and levelling deposits, and not from in-situ archaeological deposits. It is reccomended that the archive is retained while the project is ongoing, and that the assemblage is considered as a whole following further investigation.
- 6.3.2 The recovery of this material does indicate the potential for artefact recovery from in-situ archaeological contexts relating to different periods of activity. As such, the potential for understanding the use of the site through targeted analysis and recovering information relating to different phases of the Pit's life is high.



7 PUBLIC IMPACT AND ENGAGEMENT

7.1 Introduction

<https://digventures.com/jane-pit/timeline/>

- 7.1.1 The public aspects of the project were very successful, demonstrating interest and enthusiasm for the project from the local community. Participants were co-producers in the investigation of Jane Pit, a nationally important archaeological site. During the excavation volunteers were able to develop research focused on the site by discovering, understanding and recording new data to assist in the preservation and future management of their own local heritage. In addition to direct participation in the excavation itself, community members were encouraged to visit the trenches and talk to the team and volunteers about the project. Our embedded schools programme engaged local pupils, encouraging them to discuss the social history of the site and the industrial heritage of their home town whilst visiting the site and learning about archaeology. Public talks introduced the project and its ambitions, as well as providing access to leading research in industrial heritage.
- 7.1.2 Images from the excavations communicate the enthusiasm and enjoyment of our fantastic groups of volunteers, without whom the dig would not be possible:
- Week 1: <http://ow.ly/K8j030l6HQK>
 - Week 2: <http://ow.ly/xpcJ30l6HSv>

7.2 Excavation volunteers

- 7.2.1 Participation at the dig was free to all to get involved for one or more days over an eight-day period. Interest in participating was very high, with 38 people reserving their place on the project within a week of booking going live. A further 24 people signed up to our waiting list, and the final numbers included 2 people participating each day. As the dig progressed several people dropped out and we were able to offer places to people on the waiting list, as well as to those who visited the site and expressed an interest in digging. The final dig team was made up of 29 individuals (see <https://digventures.com/dig-team/jane-pit/>), primarily local residents, all with different levels of archaeological experience and knowledge, covering a range of ages, occupations and economic backgrounds. An additional team of seven volunteers were involved in post-excavation sessions at our Barnard Castle office. The contribution by volunteers amounts to over 84 days and 588 hours of work.
- 7.2.2 Notably, each of these participants and the visitors to the site expressed their connection to Jane Pit as a prime motivator to get involved or to visit. There was a general feeling of approval that something was being made of the site, with comments suggesting that local people felt that the site was open to neglect and abuse, and that they felt the project might help to change this.

"I am very interested in the dig because we live directly across the road from Jane pit. I feel the site gets abused very much by the children playing on it"

"I love things like this and spending most of my life playing over at Jane pit, I would love to find out more about its history. My Nanna lived opposite and always told me stories"



7.2.3 All volunteers gained significant insight into the different techniques and methods used on and off site. This includes survey techniques, fieldwork, regional and national research context, finds-processing and post-excavation recording and research. Once volunteers arrived on site with us, they learnt how to record their findings on the Digital Dig Team website. Those skills were taught with support from the professional archaeologists, supported using tool cards and descriptions and help functions on the database. All **site records** are completed online and published in real time, with the site archive being co-produced by the whole project. Volunteer highlights included:

“Just taking part! And cleaning and recording the finds when we got rained off. We all loved the little pieces of pottery - it’s funny to think they were someone’s plates... maybe their Sunday best!”

“I’ve lived here all my life so I wanted to come and have a nosy – and I got my son Jack out in the sun and found some pottery in Trench 3”

“I grew up and currently live in Workington and have always wanted to see it’s heritage to be investigated and placed on the archaeological map”

“Watching each layer be peeled back and knowing that you would not just stop there but continue with the next layer”

7.2.4 DigVentures field schools are based on National Occupational Standards in archaeology and, as such, are linked to recognised vocational learning frameworks (such as NVQ). Volunteers who were actively interested in developing their archaeological skills were encouraged to record their learning using the Archaeological Skills Passport. At least one volunteer took his new found interest to the next level and opted into DigVentures online learning course, *How To Do Archaeology*.

7.2.5 The project has helped people see beyond the familiarity of the standing structures which occupy the site, with volunteers inspired to conduct their own research into the site and the wider area. Therefore, the involvement of individuals in the project not only stimulated an interest in archaeology, but in understanding more about the coal industry and in Workington’s heritage. Volunteers often brought family members to visit, giving them a tour around the trenches and demonstrating a real pride in their work.

7.3 Schools programme

7.3.1 DigVentures invited several local primary schools to the site to learn about Jane Pit, archaeology and, more generally, the industrial heritage of Workington. Three local schools got involved and our sessions reached and 190 Key Stage 2 school children. Activities began with a talk with one of our Community Archaeologists about what archaeology is and why it happens. The Jane Pit Project was introduced and discussed through the eyes of two Victorian children, William and Annie. Pupils worked in groups to discuss how William and Annie might feel working in the mine, the kind of jobs they might have done at the age of 10 and 11 and to think about what being in a pit might have been like during the Victorian era (see Appendix 3).



7.3.2 This was followed by a site tour where the pupils were encouraged to ask our archaeological team and dig volunteers' questions about the site, look at the archaeological features we talked about in the workshop and get hands on with some of the finds. Sessions lasted for around an hour, finishing off with a final activity to create a drawing of the site inspired by Lowry's sketch of Jane Pit in the 1960s.

7.4 Public access

7.4.1 Jane Pit is a very publically accessible site in the centre of the town of Workington in an area popular with dog walkers. As such and in addition to the public programme, members of the public passing by the site were invited to observe, ask questions and to be shown round the site on impromptu tours throughout the project. Approximately 100 (between 9 and 15 each day) members of public were shown around the site and given an introduction to the archaeology and industrial heritage of the town.

7.4.2 Often such visits were spontaneous and resulted in wider conversations with the project team and volunteers about different experiences people had of the site. Such a tangible feature in the town has clearly earned a real resonance with those who live and work nearby. Visitors often returned with photos of the site dating back to the 60s and 70s and shared their stories of growing up near to Jane Pit. Not only did this help our understanding of how the site has evolved over the last couple of generations, but stories gave the monument a real personality. Jane Pit is well known and well loved by the local community, with many people were keen to find out why the archaeological team was there and what the project planned to achieve.

7.4.3 Finally, during the closing weekend, we held an open day which incorporated site tours for all the family. We received a further 52 visitors during the day, and provided child friendly tours with the opportunity for kids to handle and wash some of the finds and draw a picture of Jane Pit. This latter opportunity taken up by approximately ten children. The open day was visited by a number of the project volunteers who were keen to see how the site had progressed since they had been digging.

7.4.4 During the fieldwork investigations, the project team delivered two public talks held at the Helena Thompson Museum, a volunteer run organisation well known within the local area. Our first talk was introduced by the Mayor of Workington, Ann Bales, who welcomed the team to the town and kicked off with a round-up of the Jane Pit Project. Programme Manager, Manda Forster and Head of Fieldwork, Chris Casswell followed with a presentation about the planned fieldwork. At the end of our excavations, we were joined by Dr Mike Nevell, Head of Archaeology at University of Salford and Chair of the Association for Industrial Archaeology, to present a summary of our excavations followed by talk discussing two industrial sites excavated by Dr Nevell. Public talks were attended by 55 people.

7.5 Digital and media

<https://digventures.com/jane-pit/background/>

7.5.1 Audience reach and participation extended beyond the site itself with a dedicated project microsite hosted on the DigVentures website (above link). The project microsite includes all site records, documentation and artefact information, and utilises the Digital Dig Team recording system. This online database facilitates the



presentation and archive of data relating to the excavation and associated data. Additionally, all community and social engagement aspects of the project directed through DigVentures' various social media channels were promoted through the microsite and are available to view on the project timeline (<https://digventures.com/jane-pit/timeline/>).

- 7.5.2 Daily updates were published throughout the excavation on several social channels including Facebook, and Twitter. The vast majority of tweets on the @thedigventurers Twitter account used the hashtag #JanePit, and we encouraged our volunteers to tweet using the same hashtag.
- 7.5.3 The site's excavation results were shared widely through press coverage. This included a feature article in the Cumbria Crack <http://ow.ly/1vUI30l6o7Z> announcing the dig, an update on the excavations in the Times and Star <http://ow.ly/M0lI30l6o3l> and a segment within ITV's Borders News reaching an audience of several million.

7.6 Unexpected creative outputs

- 7.6.1 During the excavation, it was noted that a number of the dig volunteers had a creative background, working professionally as illustrators or as accomplished amateurs. As a consequence of their involvement in the project, three of our excavation participants – [Marty Strutt](#), [Simon Fielder](#) and [Sarah Carter](#), created a piece of artwork inspired by Jane Pit. The creative medium and style of the works varied from sketches, embroidered works to digital illustration, and were gifted to the DigVentures team as a thanks to our staff. These are currently at our offices in Barnard Castle where a plan will be implemented to share them more widely.

8 DISCUSSION

8.1 Introduction

- 8.1.1 These investigations have successfully identified the access ramp and associated retaining wall for Jane Pit, foundations for Frostoms cottages and have clearly shown phases of activity within the presumed horse gin. These results are intended to provide the site custodians with baseline information on the Jane Pit Scheduled Ancient Monument, and are presented with a high degree of confidence that archaeological features or significant deposits within the trenches were recognised and recorded where present. The conclusions drawn from this data is summarised below, with potentially fruitful research objectives and specific recommendations for further work detailed.

8.2 Project aim 1

- 8.2.1 Aim 1 focussed on remote sensing, setting out to define and establish the physical extent of Jane Pit. A ground survey and desktop assessment of the site had already been completed (Quartermaine 2016) (Q1-2) which was complemented with further on-site recording of the structural features with our volunteers. These results identified eight archaeological feature relating to the site of the pit (Q1) with some suggestion for the purposes of these (Q2). The features identified comprised the gin pit, an engine house, the western free-standing chimney, a rectangular building, the mine shaft, a



freestanding connecting wall, the earthwork of a retaining wall and a final brick and concrete feature. These results informed a targeted excavation strategy which aimed to investigate features relating to the use of Jane Pit. Further remote survey, namely regression mapping, of the site was carried out during the project design stage (see Forster 2018). In addition to confirming and adding resolution to the features previously identified, this process also determined the presence of buildings contemporary to the use of the pit, in particular Frostoms cottages.

8.2.2 Historic Ordnance Survey maps identify the location of Frostoms cottages. The latest available map detailing the location of structures at this location date to 1970. Further features identified include the retaining wall and ramp for Jane Pit (labelled as a disused mine) and trace the circular earthworks of the horse gin in addition to standing remains. As such the mining features of Jane Pit, Holyoak Cottage and Frostoms cottages, can be estimated using map and aerial survey evidence (Q3).

8.2.3 The accuracy of these documents, however, can only be assessed fully through archaeological excavation. Trenches were placed using a GIS making use of all available mapping. Their locations were then located physically using a dGPS accurate to within 2cm. In two cases, Trench 2 and Trench 3, features relating to the mapped evidence were located in their expected positions within these trenches. These show that the accuracy of these sources is high (metre accuracy). However, the excavated evidence from Trench 4 suggests that the location of Frostoms cottages were slightly offset from the features depicted, it only being through the knowledge of a nearby resident that the trench was moved to a correct location. As such, the form and location of Frostoms Cottages can better be determined to within a few meters of their physical location using map evidence and aerial survey (Q3).

8.3 Project aim 2

8.3.1 Aim 2 was devised to characterise the results of the non-invasive survey, with a programme of machine and hand-dug test trenches (Q4, Q5 and Q7). The excavations within each of the Trenches have identified multiple phases of activity that corroborate the identified chronological phasing for the site (Q4). Within Trench 2 these phases are solely representative of the abandonment of the presumed horse gin and its consolidation for public access, the earthwork being filled over numerous times with layers of infill. Within Trench 3 this consolidation phase is made slightly more evident through the tumble of the retaining wall (3008) indicating the methods used to level the site, namely the truncating of bumps in the landscape using heavy machinery and the filling of sumps using this same material. In particular the form of contexts 3004, 3005 are characteristic of this large scale post-industrial landscaping (Q5).

8.3.2 Trench 4 shows the most discrete phases, with evidence for the construction, use and then abandonment of Frostoms Cottages. The cottages are known from historic mapping to have been demolished sometime after 1970. Excavation has been able to confirm this demolition through the presence of a levelling layer within Trench 4 (4003) visible an area of red dust localised in the western edge of the trench (Q4). Evidence of the house's construction are plainly made visible by the three foundation walls within the trench while internal features also indicate, to an extent, the excavated area's use. For example, the presence of a drainage pipe in the south of the trench



within an apparently bounded zone would suggest the area was used either for washing or as a privy (Q6). The presence of a potential set pot placed within adjacent to a foundation wall may indicate that this region was the interior of Frostoms cottages (Q6) although it has not been possible to confirm this.

8.3.3 Trench 3 indicates that much of the archaeology of the pit surroundings are likely to identify evidence for the levelling of the site (Q5, Q7). Yet, within this trench are also remains from a phase contemporary with the mine's use, namely the standing remains of the retaining wall (3007) that would have bounded the ramp leading to the mine (3006). Traces of this ramp baring the retaining wall were ephemeral such that it is unlikely that a surface was formally laid down instead the was metalled simply through repeated trampling across its surface. The presence of structural remains while slight is significant as they argue against the area being entirely sterile of information that might improve our understanding of the pit (Q5).

8.3.4 Archaeological features survived across each of the trenches excavated (Q6). In some respects their preservation was good, with individual contexts appearing incredibly clearly. However, the relevance of the structures to the use of pit is variable dependent on location. For example, while a feature was present in Trench 2, the activity identified relates to the later consolidation of the horse gin. Yet these features do raise questions about the use of the pit following its abandonment. For example, the stone that forms the fill of this feature has been suggested as being off cuts from Workington's nearby quarry providing a connection between this site and another. Less clear are the reasons for the brick refuse pit placed within the horse gin as it is presumed that the earth in this area had already been filled and levelled in an earlier episode with dispersed rubble. The presence of a horse gin associated with a powered engine at the mine has already been established as being atypical for this form of site (Q5) while the presence of clear period of levelling imply that remains left from the use of the earthwork will be preserved (Q6) should a larger investigation be carried out.

8.4 Project aim 3

8.4.1 Aim 3 was designed to further our 'understanding of the palaeoenvironmental conditions and burial environment of the site'. Until these investigations the preservation of archaeological remains was unknown. The evidence of landscaping across the site (see above) demonstrates that it has been subject to significant disturbance following the closure of Jane Pit yet they also confirm that the buried remains are stable across the entire of the site, despite this disturbance.

8.4.2 In general, artefact recovery was good with numerous artefacts being recorded from a number of contexts (Q7). The assemblage, including pottery, CBM, iron, glass and animal bone, dates to the post medieval period and is relevant to the landscaping of the site and its use since this time. This material has been found across all trenches (Q9) indicating a concerted episode of transition for the landscape, from an area reserved for mineral extraction, to one now used almost solely for recreation. While later than the pit's use, this material does indicate the potential for artefact recovery from in-situ archaeological contexts relating to different periods of activity. As such, the potential for understanding the use of the site through targeted analysis and



recovering information relating to different phases is high (Q8). The presence of large quantities waste, including clinker, from Trench 4 suggests that the owners of the site had interests external to its boundaries from which waste was being brought and disposed of at the site (Q9).

8.5 Project aim 4

- 8.5.1 The overall aim of the project was to provide baseline information to contribute to the future management, research and presentation of the site, creating multiple education and participatory learning experiences for community participants (see Section 7). It also aimed to define and to characterise the physical extent of the site through a programme of non-intrusive investigations and intrusive excavation. Fieldwork has been successful in collating data from Aims 1 – 3, and the project has entered into a review point cycle. Further work (Q12) will be necessary to put the results from the site in context at which point a full synthesis of the results will be possible (Aim 4 Q11 and Q13). These should primarily take the form of further intrusive excavation and some limited survey of the structures across the site, see Section 10.

9 CONCLUSIONS

- 9.1.1 Overall the first season of fieldwork investigations at Jane Pit have proved successful. Despite identifying that a significant amount of landscaping consolidating the site had occurred, particularly in Trench 3, features were identified across all the trenches which have helped further understand the use of the site since the pit was opened. The circular earthwork located south of the engine house has yet to be confirmed as a horse gin, with the working ground surface proving to be far deeper than had been expected. However, the presence of multiple well-preserved levelling layers suggest archaeological information may be gleaned from deeper deposits.
- 9.1.2 The features within Trench 4 were well-preserved such that future investigation of this area is likely to provide valuable information on the initial construction of Frostoms cottages and about the daily lives of the workers and occupants near Jane Pit. Trench 4 was repositioned following feedback from a local resident, reinforcing the value of community engagement and how vital it is to the success of this project. The ability to mobilise the community is particularly notable for this project. During all days of excavation the project team were buoyed by the eagerness of the project's volunteers, and the assistance provided by local groups. Their connection to Workington, as expressed by their interest in the pit and enjoyment of engaging with his feature through archaeological investigation, was palpable and should continue into the future.

10 RECOMMENDATIONS

- 10.1.1 The following section develops ideas to deliver a second stage of the archaeological investigations which will achieve far greater levels of participation, provide the opportunity to involve targeted groups, and create multiple education and learning experiences. The recommendations are intended to be refined and developed with the Jane Pit projects team, in collaboration with Workington Town Council and The Helena Thompson Museum.



10.2 Archaeological excavation and metric survey

- 10.2.1 Investigations undertaken in 2018 have highlighted a number of potential targets for a second excavation season. These include features relating to the use and functions of Jane Pit, in particular the engine house, the horse gin and the wagonway (see Figure 7). In addition, extending the trench investigating the location of Frostoms cottages would aim to reveal information relating to use of these buildings and the phasing of associated activities.
- 10.2.2 Investigations targeting the engine house have a high potential to identify the nature of works at Jane Pit. Previous targeted trenches of engine houses in the northwest of England (Nevell *et al.* 2004) have been successful in identifying the form of machinery used within the structures, the exact function of which is vital to understanding the exploitation of the area. As such, targeted excavation of the area inside the engine house is very likely to produce evidence for the machinery used at the site in addition to material culture informing on the wider practices occurring contemporaneous to its primary use. This is particularly relevant to this site as such evidence provides a chance to understand the unique aspects of Jane Pit such as the presence of the possible horse gin. Furthermore, previous rapid survey of the site (Quatermaine 2016) identified that only the exterior of this structure was surveyed, such that, if excavation were to take place, metric survey using either photogrammetry or laser scanning of the engine house should be carried out in order to provide baseline structural data for the monument's future management and conservation.
- 10.2.3 A digital aerial survey will provide a valuable archive output for the investigations, providing a geolocated 3D model of the site which can be housed on the project microsite, highlighted the different archaeological features and linking to further technical data on the Digital Dig Team website. In addition, the collection of this data provides a springboard for other engagement products, such as a digital fly-through of the site and reconstructed buildings (see below).
- 10.2.4 The purpose of the earthworks interpreted as a horse gin has yet to be confirmed or refuted such that further investigation of this feature is required. Evidence relating to this use is likely to be buried slightly over 1m below the topsoil at the horse gin's center. While this is deep, it is very likely that features and material relating to this purpose is well preserved in situ such that a careful strategy that allows excavation in this area to a sufficient depth would prove valuable. Some understanding has been gained regarding the relationship of the horse gin's circular earthworks to its center, despite the bank not being directly targeted. Direct excavation of the bank itself would enable a full narrative to be understood for the bank's construction, use, abandonment and/or consolidation which, in turn, may be related to the use of the earthwork's interior. As such a targeted trench placed across the earthwork is likely to prove valuable to the project's research aims.
- 10.2.5 The identification of features within historic documents and mapping has proved valuable in identifying and targeting surviving archaeological features for investigation. One such feature, a wagonway to the north of the surviving engine house, is visible on the 1864 Ordnance Survey mapping. Confirmation of the location of this feature and the extent of its survival would provide additional data relating to



the nature and scale of activities occurring at the site. In addition, a trench situated across the area of the possible wagonway will contribute further to our knowledge of the preservation of feature relating to the Pit in this area of the site.

- 10.2.6 Finally, an important aspect of the excavations has been the investigation of domestic buildings in the area of Frostams cottages and the area in and around Trench 4 presents further potential for excavation. Currently six features have been identified within the house representing its construction, use and demolition. However, no information that can place a date on these phases was recovered and further investigation of these features is likely to produce such evidence. In addition, targets in this area should aim to resolving what activities were carried out in each of the house's areas and relate those activities to particular phases of use.

10.3 Public participation and learning

- 10.3.1 Further excavation will build on the positive volunteer participation of 2018 with increased opportunities for the dig in 2019. Importantly, our proposals would include designing a *pathway to participation*, working with the wider project team to maximise engagement with local audiences and ensuring local people are able to join the excavations in a more flexible way. For example, informal feedback during the 2018 season suggested that hours which accommodated parents joining the team once children had been dropped at school, and leaving when they needed to be picked up, would be more accessible.

- 10.3.2 With an extended field season of 12 full days on site combined with increased trench sizes and a bigger team, the number of participant opportunities will also be greater. Our field school learning curriculum is benchmarked against National Occupational Standards and the Archaeological Skills Passport, and we have recently launched an online Massive Open Online Course to further extend access to training and support our participants. This course would be made available to Jane Pit fieldschool participants to further enrich and deepen their skills acquisition and learning.

- 10.3.3 The learning programme can be appended by shorter workshops targeting particular skills, such as photogrammetry, local history and archaeological finds, as well as the full range of skills developed during the excavation itself. These shorter workshops could be used to invite particular audiences to get involved with the project, that would be defined in collaboration with the wider project team.

10.4 Mine the archives

- 10.4.1 A programme of activities would be planned with the team at Helena Thompson Museum to enlist a group of volunteers to *mine the archives* for information relating to Jane Pit, Buddle Pit and Annie Pit. The researchers would raise awareness to the heritage assets within the Study Area, to the project itself and to industrial archaeology more generally. Research would be conducted through desk-based activities including documentary research, map regression and place-name research, using GIS packages to plot discoveries. All activities would have specific and clear research aims with results providing knowledge and information about the area, which would then inform schools workshops and shape other activities, such as web content and a pop up exhibition. Depending on the scale agreed with the Project Team, we would seek to



design the archive activities around the active museum programme in order to maximise participation as well as bring together all the strands of the project.

10.5 Creating a virtual museum

10.5.1 Working with local volunteers, items relating coal mining will be recorded and curated via a virtual museum. The collection would not aim to create a comprehensive archive of all objects relating to coal mining in Workington, but instead provide a carefully selected group which captures the everyday life of working at a coal mine. This group could also provide the focus of a physical pop-up exhibition to celebrate the project, pairing a more traditional museum display with a digital sister exhibition reaching far great audiences. The virtual museum would be presented alongside the Project Microsite, enhancing the site archive and providing a wider context from which to view the archaeological site. The museum exhibition would be the natural home for a digital fly through created from the 3D aerial model of the site which shows the site today and in its heyday as a working Pit.

10.5.2 A similar solution was offered at our recent project *The Lancaster Hoard*, where a pop-up exhibition displayed the nationally-significant Lancaster Hoard to the public for the first time. Held at The Storey, Lancaster, the physical museum attracted 1800 guests over a 20-day span, with the partnered online Virtual Museum achieving over 45,000 impressions.

- Physical Museum:
<https://digventures.com/barrowed-time/virtual-museum/the-exhibition/>
- Virtual Museum:
<https://digventures.com/barrowed-time/virtual-museum/>

10.5.3 For the Jane Pit project, the exhibition would benefit from being deeply embedded within the local community participants, with volunteers not only helping collect the data, but sourcing the objects and co-designing the exhibitions.

10.6 Tales of the Pit: embedding oral histories into the site archive

10.6.1 To further integrate various strands of social history and local knowledge into the archaeological project, we propose to further enhance the archaeological record with the results of oral histories collected as part of the wider project. DigVentures will call on our education programme development and exhibition production experience, and particularly utilise the specific skills of our in-house videographer, to ensure the oral histories element is recorded and fully incorporated into the Jane Pit site archive.

10.6.2 This combination of memories, stories and audio/video content, will complement the archaeological narrative and provide a further opportunity to engage new and different audiences. By involving young people in collecting the recordings, helping produce and edit content aims to provide a direct link between a generation born after the demise of the towns industrial activities to those who remember it well. In addition, the skills learnt during the workshops are eminently transferable and relevant to an increasingly digital skills market.



10.7 Education, schools and young adults

- 10.7.1 The project will offer three major engagement scenarios: free learning sessions at local schools (for approximately 200 KS2 children, and 50 young adults); participation in the digital training workshops (for 20 participants); a robust open-access digital platform designed to enable engagement beyond the bounds of physical locations (attracting 5,000 unique visitors per month).
- 10.7.2 Our aim would be to connect with as wide an audience as possible, with a focus on local primary school children and young adults. Research recently undertaken by the HLF and RSA (*Principles of Networked Heritage* RSA 2016), has identified that heritage is an underused resource for connecting people to places, and by strengthening this connection a host of social and economic benefits will follow (RSA 2016). This is a particular challenge for younger age demographics, with audience evaluation indicating that young people engage with heritage less frequently than other age groups. DigVentures' own audience survey of 359 prospective participants conducted as part of this application (*Your Heritage in Your Hands* – included as a supporting document) also supports these findings, but points to some potential solutions that we have incorporated into our activity plan. The survey identified that the key issues preventing people engaging with their local heritage are based on access and cost, with over 65% of participants stating this case. This rose to 74% in those respondents under the age of 29. Of those surveyed, 93% of participants were keen on taking part in a community archaeology project, and over 82% were keen on the idea of having more opportunities for digital participation, such as virtual exhibitions and lessons.
- 10.7.3 The goals and aspirations of the HLF and RSA's 'Networked Heritage' research is particularly relevant for Hartlepool's immediate and wider locality. The major challenge is for younger age demographics, with audience evaluation indicating that young people engage with heritage less frequently than other age groups. By creating more activities and volunteering opportunities to access a previously overlooked heritage asset – both online and across two accessible locations – 'The Jane Pit Project' presents an important opportunity to address the strong social and educational needs of the surrounding communities. The ready availability of smartphone technology and affordable, easy to use software has created an opportunity for community participants to collaborate in the digitisation of aspects of Workington's 19th and 20th century archaeological archive – an important process in helping to further define the distinctiveness of place. CyberDig and school visits will be key to this, sharing awareness of the Virtual Museum with children and families, and expanding on local provision to deliver a new strand of archaeology and heritage-specific programming for young people.



12 BIBLIOGRAPHY

- BGS, 2018. Geology of Britain viewer. British Geological Survey. Accessed January 2018 <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- Brennand, M. (ed.) 2006. An Archaeological Research Framework for North West England: Volume 2, Research Agenda and Strategy. ALGAO, English Heritage, CBA Northwest.
- Chartered Institute for Archaeologists (CIfA) 2014 Standard and Guidance for Archaeological Field Evaluation. Reading.
- Fletcher, I, 1878. The Archaeology of the West Cumberland Coal Trade, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society 3, 266-313
- Forster, M, Casswell, C and Wilkins B. 2018. Jane Pit, Workington: Project Design for a Community Excavation. Barnard Castle: DigVentures
- Historic England. 2016. [Jane Pit List Entry](#). Accessed June 2018.
- Historic England. 2006 Management of Research Projects in the Historic Environment: [The MoRPHE Manager's Guide](#). Accessed 18th July 2018
- Nevell, M., Roberts, J. and Champness, B., 2004. Excavating the iconic: The rediscovery of the Fairbottom Bobs Colliery pumping engine. *Industrial Archaeology Review* 26(2), pp.83-93.
- Newman, R. and McNeil, R., 2007. The industrial and modern period research agenda. In Brennand (ed), An Archaeological Research Framework for North West England: Volume 2, Research Agenda and Strategy. ALGAO, English Heritage, CBA Northwest. 133-158.
- Palmer, M., Nevell, M. and Sissions, M. 2012. *Industrial Archaeology: A Handbook*. CBA. Quartermaine, H. 2016 Jane pit, Workington, Cumbria; Desk-Based Assessment and Landscape Survey Report, Report No. 2016-17/1770. Oxford Archaeology North.
- Wood, O. 1988. *West Cumberland Coal 1600 – 1982/3*, CWAAS Extra Series XXIV, Kendal.



Appendices

13 APPENDIX 1 - TRENCH AND CONTEXT DESCRIPTIONS

Trench 2	Dimensions: 3m x 3m				
	Orientation: Square				
	Reason for Trench: To assess and characterise the archaeology and purpose of the earthwork's described as a horse gin				
Context	Description	Interpretation/Process of deposition	Dimensions (m)		Feature
2001	Mid brown medium silty sand with no inclusions	Layer - Topsoil	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.08m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2001				
2002	Light brown loose silty sand with pebble inclusions	Layer - Spill from gin earthwork	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.42m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2002				
2003	Loose well rounded pebbles	Layer - Pebble levelling episode	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.06m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2003				
2004	Blackish brown medium silty sand with occasional stone inclusions	Layer - infilling/levelling event within the horse gin	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.24m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2004				



Context	Description	Interpretation/Process of deposition	Dimensions (m)		Feature
2005	Burnt maroon red gritty sand with large inclusions of slag	Layer - infilling event within the horse gin	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	depth varies across the trench	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2005				
2006	Loosely packed large boulders	Layer - Large boulder rubble layer in arc, following line of 'horse gin' earthwork	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.20m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2006				
2007	Yellow brown medium loose sandy silt with brick inclusions	Fill - the infill of a pit	Length –	2.30M BLOE	F201
			Width –	2.00M BLOE	
			Depth –	0.64m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2007				
2008	Greyish yellow and brown loose silty sand with occasional angular stone inclusions	Layer - Infilling/levelling event within the horse gin	Length –	1.00m BLOE	
			Width –	2.00m BLOE	
			Depth –	Not fully excavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2008				
2009	Oval shape in plan orientated N-S with a sharp break of slope at the top, steep sides, a gradual break of slope at its base	Cut - Waste brick pit	Length –	2.30m BLOE	F201
			Width –	2.00m BLOE	
			Depth –	>0.64m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_2009				



Trench 3	Dimensions: 7.5m x 3m				
	Orientation: north to south				
	Reason for Trench: To assess and characterise the archaeology of the access ramp and retaining wall providing access to Jane Pit				
Context	Description	Interpretation/ Process of deposition	Dimensions (m)		Feature
3001	Mid greyish brown compact silty clay	Layer - Topsoil	Length –	7.50m BLOE	
			Width –	3.00m BLOE	
			Depth –	<0.12m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3001				
3002	Mid brown compact clayey silt with occasional small stones	Layer - subsoil	Length –	7.50m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.10m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3002				
3003	Very light grey hard silty clay with very frequent mixed sub-angular mudstone and slate inclusions	Layer - representing landscaping of area around the pit	Length –	7.50m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.20m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3003				
3004	Dark greyish brown friable clayey silt with moderate angular stones	Layer - Landscaping deposit	Length –	3.50m	
			Width –	3.00m BLOE	
			Depth –	0.5m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3004				
3005	Mid greyish brown compact clay with occasional sub-angular stones	Layer - Landscaping deposit	Length –	3.00m	
			Width –	3.00m BLOE	
			Depth –	Unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3005				



Context	Description	Interpretation/ Process of deposition	Dimensions (m)		Feature
3006	Light grey hard compact clay with frequent large angular mudstone and slate boulders	Layer - the compacted ground surface for the ramp running east west to Jane Pit	Length –	3.00m	
			Width –	3.00m BLOE	
			Depth –	Unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3006				
3007	Roughly hewn ashlar blocks which survive at least four course high bonded with rough limestone mortar	Masonry - The retaining wall for the ramp leading to Jane Pit	Length –	3.00m BLOE	
			Width –	0.20m	
			Depth –	0.40m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3007				
3008	Mid brownish orange firm sand with large angular ashlar blocks	Layer - tumble from the retaining wall dragged north during landscaping and flattening of the terrain	Length –	3.00m BLOE	
			Width –	1.0m	
			Depth –	0.50m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_3008				



Trench 4	Dimensions: 3m x 3m				
	Orientation: Square				
	Reason for Trench: To assess and characterise the archaeology of Frostoms Cottages				
Context	Description	Interpretation/ Process of deposition	Dimensions (m)		Feature
4001	Dark brown medium clayey silt	Layer - Topsoil	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.08m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4001				
4002	mid blackish brown compact hard silty clay with coal, slate and pebble inclusions	Layer - Subsoil	Length –	3.00m BLOE	
			Width –	3.00m BLOE	
			Depth –	0.48m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4002				
4003	reddish orange compact clayey silt with brick, brick dust and sandstone inclusions	Layer - backfilling of brick and rubble	Length –	2.09m	
			Width –	1.53m	
			Depth –	0.09m	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4003				
4004	Unfinished angular slabs of sub-rounded boulders bounded with white yellow mortar	Masonry - the single course/foundation of a wall running northwest to southeast	Length –	2.90m BLOE	JNP_401
			Width –	0.62m	
			Depth –	>0.10m unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4004				
4005	Rectangular cut for (4004) left unexcavated	Cut -The cut for foundations of a wall running northwest to southeast	Length –	2.90m BLOE	JNP_401
			Width –	0.62m	
			Depth –	>0.10m unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4005				



Context	Description	Interpretation/ Process of deposition	Dimensions (m)		Feature
4006	Dark blackish grey sandy fill 80% of which was made of sub-rounded to sub-angular cobbles	Layer - Cobbled surface probably for an outside yard	Length –	2.12m BLOE	
			Width –	1.50m BLOE	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4006				
4007	Brick (mostly degraded) bonded by very sandy grey mortar	Masonry - the remains of the foundation for a thin wall placed in an outside yard	Length –	2.05m BLOE	JNP_404
			Width –	0.30M	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4007				
4008	loose structure of stones and pebbles bonded with mortar left unexcavated	Masonry - A square structure filled with material provisionally interpreted as a set pot	Length –	1.03m BLOE	JNP_406
			Width –	0.30m	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4008				
4009	Dark brownish black soft silt with occasional small angular sandstone inclusions	Layer - the waste fill for a square structure provisionally interpreted as a set pot	Length –	0.84m BLOE	JNP_406
			Width –	0.46m BLOE	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4009				
4010	Dark reddish brown hard silty sand with sub-angular to sub-rounded cobble inclusions	Layer - compacted surface	Length –	1.79m BLOE	
			Width –	0.87m BLOE	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4010				



Context	Description	Interpretation/ Process of deposition	Dimensions (m)		Feature
4011	Darkly greyish black sandy silt with charcoal, fragments of coal and pebble inclusions	Layer - Layer of organic material	Length –	0.35m	
			Width –	0.26m	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4011				
4012	Circular cut not fully excavated	Cut - cut for a drainage pipe	Length –	0.19m	JNP_405
			Width –	0.19m	
			Depth –	>0.12m not fully excavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4012				
4013	Dark blackish brown moderately firm silty sand with 4 brick inclusions	Fill - Fill of draiage pipe	Length –	0.50m	JNP_405
			Width –	0.45m	
			Depth –	>0.10m not fully excavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4013				
4014	Large slabs in a linear arrangement bonded by dark grey mortar	Masonry - the single course/foundation of a wall running northeast to southwest	Length –	1.10m BLOE	JNP_402
			Width –	0.44m	
			Depth –	>0.13 unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4014				
4015	Mid yellowish grey clayey silt filled with sub-rounded to sub-angular poorly sorted cobble inclusions	Layer - cobbled layer outside the wall	Length –	0.50m	
			Width –	0.37m	
			Depth –	>0.05m unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4015				



Context	Description	Interpretation/ Process of deposition	Dimensions (m)		Feature
4016	Cobbles between 10cm and 20cm in size placed in mortar in a linear arrangement	Masonry - the single course/foundation of a wall running northeast to southwest	Length –	0.30m BLOE	JNP_403
			Width –	0.20m BLOE	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4016				
4017	Sub-rectangular cut left unexcavated	Cut - The cut for the foundation for a thin wall placed in an outside yard	Length –	2.05m BLOE	JNP_404
			Width –	0.30m	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4017				
4018	Sub-rectangular cut left unexcavated	Cut - Cut for the foundation of a wall running northeast to southwest	Length –	1.10m BLOE	JNP_402
			Width –	0.44m BLOE	
			Depth –	>0.13m unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4018				
4019	Sub-rectangular cut left unexcavated	Cut - Cut for the foundation of a wall running northeast to southwest	Length –	0.30m BLOE	JNP_403
			Width –	0.20 BLOE	
			Depth –	unexcavated	
Link	https://digventures.com/jane-pit/ddt/cxt/JNP_4019				



14 APPENDIX 2 - THE FINDS ASSEMBLAGE

Appendix 2.1 Glass

SF	Context	Trench	Material	Period	Description	Quantity	Weight (g)
4	4006	4	Glass	Modern	Glass Bottle Base	1	130
	3004	3			Misc (Perfume Jar)	1	34
	2005	2	Glass			1	8
	2005	2	Glass			1	10
	2007	2	Glass			12	56
	3001	3	Glass			1	34
	3002	3	Glass			2	9
	3002	3	Glass			4	153
	3002	3	Glass			74	389
	3004	3	Glass			12	80
	3005	3	Glass			4	29
	4002	4	Glass			3	55
	4002	4	Glass			21	155
	4002	4	Glass			44	157
	4003	4	Glass			33	62
	unstratified	4	Glass			1	12

Appendix 2.2 Metal

SF	Context	Trench	Material	Period	Description	Quantity	Weight
1	4006	4	Iron	Modern	Door Latch	1	547
3	3004	3	Iron	Modern	Spanner	1	724
	2004	2	Ferrous		Clinker	2	49
	2005	2	Ferrous		Clinker	23	348
	2007	2	Ferrous		Clinker	4	188
	3004	3	Ferrous		Clinker	1	19
	2004	2	Ferrous		Ferrous Object	1	413
	2005	2	Ferrous		Ferrous Object	5	336
	2005	2	Ferrous		Ferrous Object	8	244
	2007	2	Ferrous		Ferrous Object	4	587
	2007	2	Ferrous		Ferrous Object	1	10
	3001	3	Ferrous		Ferrous Object	3	142
	3001	3	Ferrous		Ferrous Object	1	277
	3002	3	Ferrous		Ferrous Object	5	201
	3002	3	Ferrous		Ferrous Object	1	62
	3002	3	Ferrous		Ferrous Object	2	135



SF	Context	Trench	Material	Period	Description	Quantity	Weight
	3002	3	Ferrous		Ferrous Object	11	102
	3004	3	Ferrous		Ferrous Object	2	39
	3005	3	Ferrous		Ferrous Object	1	8
	4003	4	Ferrous		Ferrous Object	1	182
	unstratified	4	Ferrous		Ferrous Object	1	7
	4003	4	Lead		Lead Object	1	40
	3004	3	Nickel		Nickel Plated	3	23
	2005	2	Ferrous		Slag	7	828
	2007	2	Ferrous		Slag	2	9
	3002	3	Ferrous		Slag	1	362
	3005	3	Ferrous		Slag	1	11
	3002	3	Tin		Tin lid	1	34

Appendix 2.3 Ceramic

SF	Context	Trench	Material	Period	Description	Quantity	Weight
2	4006	4	Ceramic	Post medieval	Drainage Pipe	1	196
	3004	3			ceramic	1	133
	3005	3	Pot		Ceramic	8	37
	unstratified	4	Pot		Ceramic (unstratified)	1	22
	3005	3			Ceramic Building Material (Drain Pipe)	2	61
	2005	2	Ceramic		Clay Tobacco Pipe	1	6
	3001	3	Ceramic		Clay Tobacco Pipe	1	4
	3005	3	Ceramic		Clay Tobacco Pipe	1	4
	4002	4	Ceramic		Clay Tobacco Pipe	1	2
	4002	4	Pot		Glazed pottery	2	233
	4002	4	Pot		Glazed pottery	6	14
	3002	3			Tile	8	240
	3002	3			Tile	30	130
	3005	3			Tile	1	40
	unstratified	4	Pot		unstratified	4	22
	2002	2	Pot			5	31



	2004	2	Pot			2	47
	3001	3	Pot			6	143
	3002	3	Pot			3	174
	3002	3	Pot			1	34
	3002	3	Pot			97	261
	3004	3	Pot			8	25
	4002	4	Pot			27	124
	4002	4	Pot			43	155
	4003	4	Pot			3	152
	4003	4	Pot			30	130
	4006	4	Pot			1	209
	4006	4	Pot			1	44

Appendix 2.4 Building Materials

SF	Context	Trench	Material	Period	Description	Quantity	Weight
	2005	2	Other		Brick	1	3
	2007	2	Other		Brick	1	2906
	2007	2	Other		Brick	1	3572
	2007	2	Other		Brick	1	2454
	2007	2	Other		Brick	4	57
	3001	3	Other		Brick	2	1192
	3002	3	Other		Brick	1	351
	3002	3	Other		Brick	1	585
	3002	3	Other		Burnt brick	1	113
	3002	3	Other		Burnt brick	2	84
	3002	3	Other		Concrete	3	625
	4002	4	Other		Concrete	3	1093
	3002	3	Other		Mortar	1	109
	3002	3	Other		Mortar	5	25
	4002	4	Other		Mortar	1	41
	4003	4	Other		Mortar	2	434

Appendix 2.5 Stone

SF	Context	Trench	Material	Period	Description	Quantity	Weight
	3004	3			Coal	3	8
	2005	2	Stone		Shale	2	5
	3002	3	Stone		Worked stone	1	187
	2005	2	Stone			1	7



	2007	2	Stone			3	5
	3001	3	Stone			3	159
	3002	3	Stone			1	142
	3002	3	Stone			2	63
	3004	3	Slate			10	231
	4002	4	Stone			1	317
	4003	4	Stone			1	94

Appendix 2.6 Other

SF	Context	Trench	Material	Period	Description	Quantity	Weight
	3002	3			2 pieces of electrical wire plus a bakelite item.	3	22
	3005	3			Carbonised Fibre	2	5
	3002	3			Item of jewellery	1	3
	3004	3			Misc (Bottle Stopper)	1	46
	3001	3			Other	3	187
	4002	4			Other	5	2503
	4003	4			Other	2	2408
	3002	3	Polymer		Plastic	6	38
	3005	3	Polymer		Polystyrene	2	7
	3001	3	Polymer		Rubber	1	12

Appendix 2.7 Animal bone

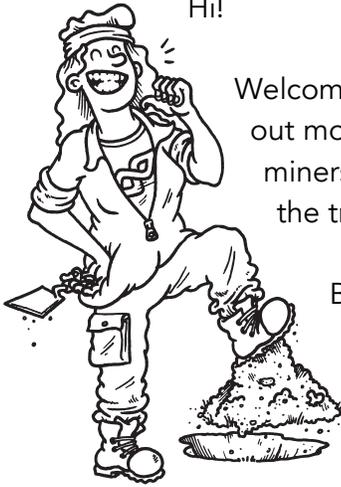
SF	Context	Trench	Material	Period	Description	Quantity	Weight
	2002	2	Bone			1	61
	2004	2	Bone			1	25
	2005	2	Bone			10	12
	3001	3	Bone			1	26
	3002	3	Bone			1	21
	3002	3	Bone			13	37
	4002	4	Bone			2	12
	4002	4	Bone			3	6
	3004	3	Bone		Shell	5	8
	4002	4	Bone		Shell	2	3







Hi!



Welcome to DigVentures' Jane Pit excavation, we'll be digging to find out more about the mine, how it worked and what life was like for the miners who lived nearby. You'll get to see archaeologists working in the trenches, and we'll even show you some of our finds.

But first, we'd like you to meet our miners; they're going to help you to learn about what life was like for children the same age as you in the mines.



These children are William and Annie. They're going to take you back to 1846 just a couple of years after Jane Pit was opened.

William and Annie are brother and sister, and they both work in the mines.

William is eleven years old, and Annie is ten. They started working at Jane Pit when they turned ten. Their families are very poor, and their wages are essential to make ends meet in their household. They feel quite lucky, because until 1842 children in their town could start work as young as five or six. However, on the 4th August 1842 a new law was passed banning children under the age of 10 from working in the mines.

For families like William and Annie, do you think it would have been seen as a good or a bad thing that they could no longer start work before then turned ten? Why do you think that?

.....

.....

.....

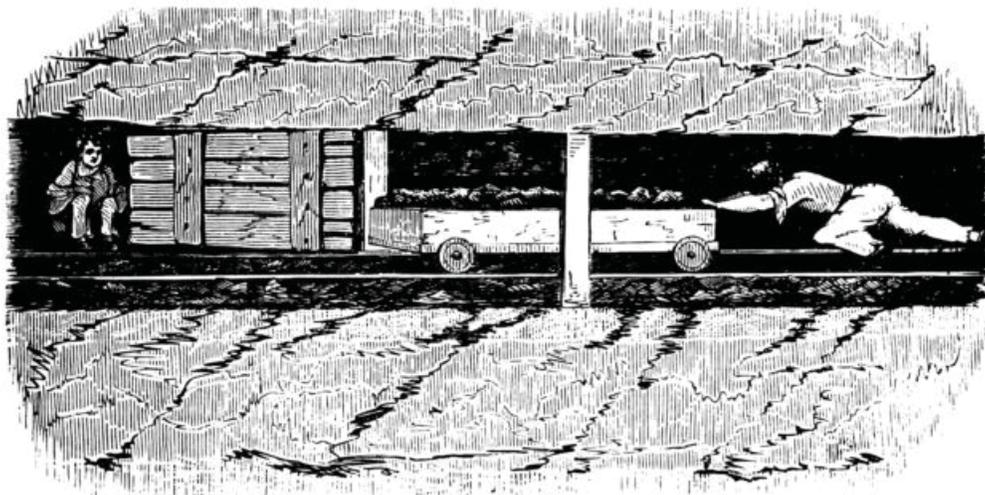
.....

.....

.....

.....

Child labour was a normal part of life in Victorian England, often whole families worked in the mines together. Children working in the coalmines mostly had jobs as trappers or hurriers.

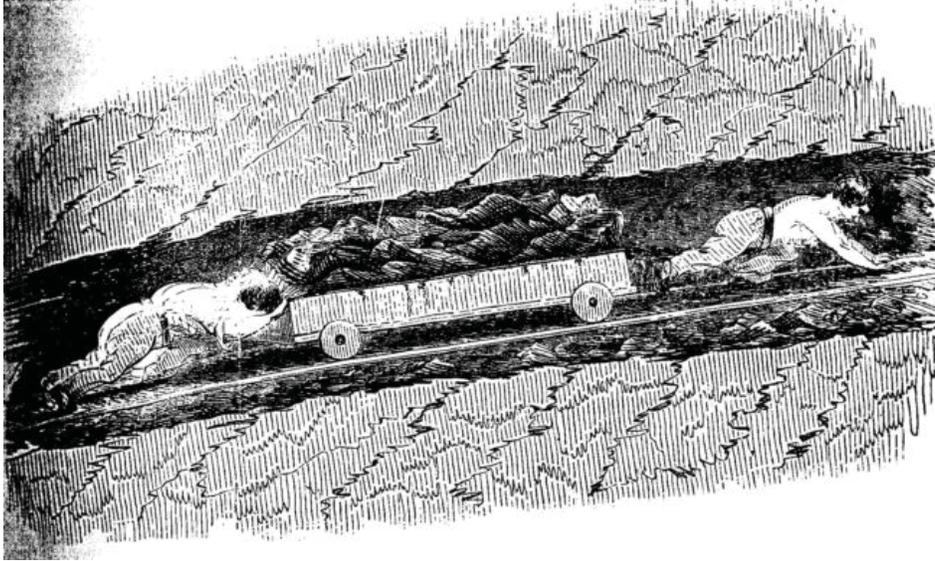


On the left of the image you can see a trapper sitting in the dark, he has just opened the trap door so that the hurrier can push the coal through.

The trapper was often the youngest member of the family; trappers worked underground and although their job was very simple, it was very boring and could be very dangerous. Trappers opened and closed the wooden trap doors in the mine, allowing fresh air to flow through; coal would also pass through the trap doors in tubs. The hours were long and wages were low, but it was easy enough that very young children could do the work.

What do you think it would be like to start your first job as a trapper at seven or eight years old? What kind of noises do you think you would hear? What would you see?

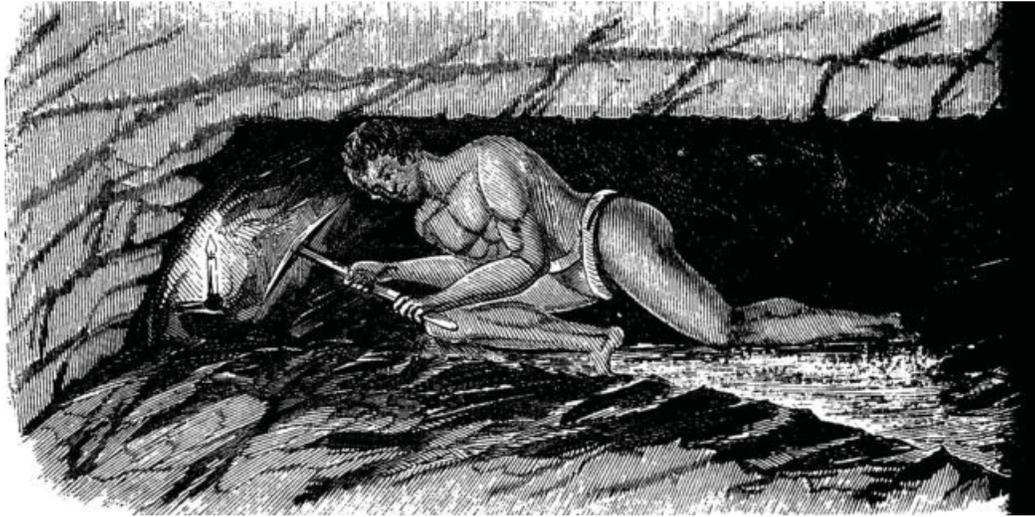
.....
.....
.....
.....
.....
.....



Hurriers were older children and women. Their job would be to pull and push the tubs of coal through the mines. Smaller children sometimes worked in pairs, but older children and women would work by themselves. They had to be strapped to tubs with harnesses, and push carts that weighed up to 600 kilograms with their hands and the tops of their heads. Sometimes the tunnels that they were pushing coal through were only about 60cm high.

What do you think the most dangerous part of being a hurrier would be? Do you think it would affect your health?

.....
.....
.....
.....
.....



Older boys and men were getters; getters were the people who tunnelled into the seams of coal, breaking it up with picks and explosives in order to send it up to the surface so that it could be used. It was dangerous and backbreaking work, but paid better wages than hurriers and trappers. Getters were the only people who got to constantly use a lamp or candle, as they needed to be able to see the coalface.

Why do you think getters were paid better than the other jobs we have talked about?

.....
.....
.....
.....
.....
.....

Neither William, nor Annie goes to school, because they need to work six days a week, from Monday until Saturday. They start work at six o'clock in the morning, and don't finish until five o'clock in the evening. They have the day off on Sunday; On Sunday, they go to school with around 100 other children in one class. There is another school nearby that has classes during the week with fewer children, called a day school.

At Sunday school they learn reading and writing and they also learn stories from the Bible, as a church runs the school. Only about half of the children at their school can read well, and only around a quarter can write. Most children attend for around five years.

Why do you think most children go to Sunday school rather than the day school? Do you think it would be better for William and Annie to go to the day school or the Sunday school? Why do you think that?

.....

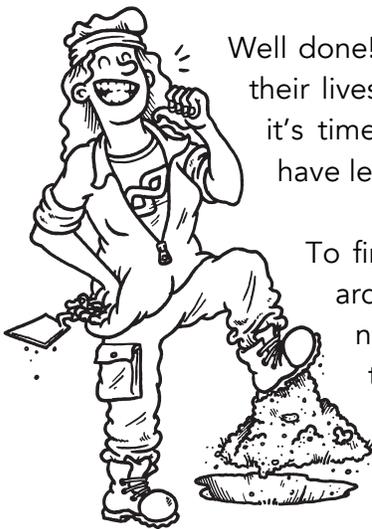
.....

.....

.....

.....

.....



Well done! You've learned loads about William and Annie, and their lives as children in coalmines in Victorian England. Now it's time to go and see what they and their families might have left behind.

To find out more about William and Annie, DigVentures' archaeologists are outside right now digging trenches near the engine house of Jane Pit. Some of these trenches are being dug to figure out how the mine used to work, and some are where we think the miners cottages used to be before they were knocked down.

What are some of the things you think we might find in our trenches?

.....

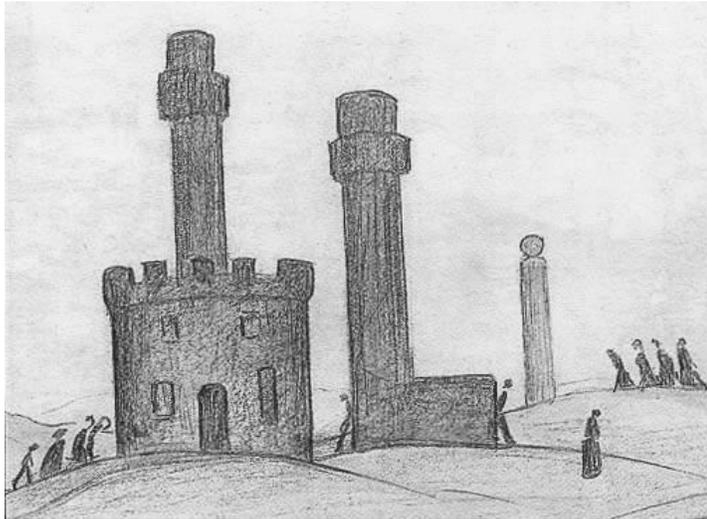
.....

.....

.....

.....

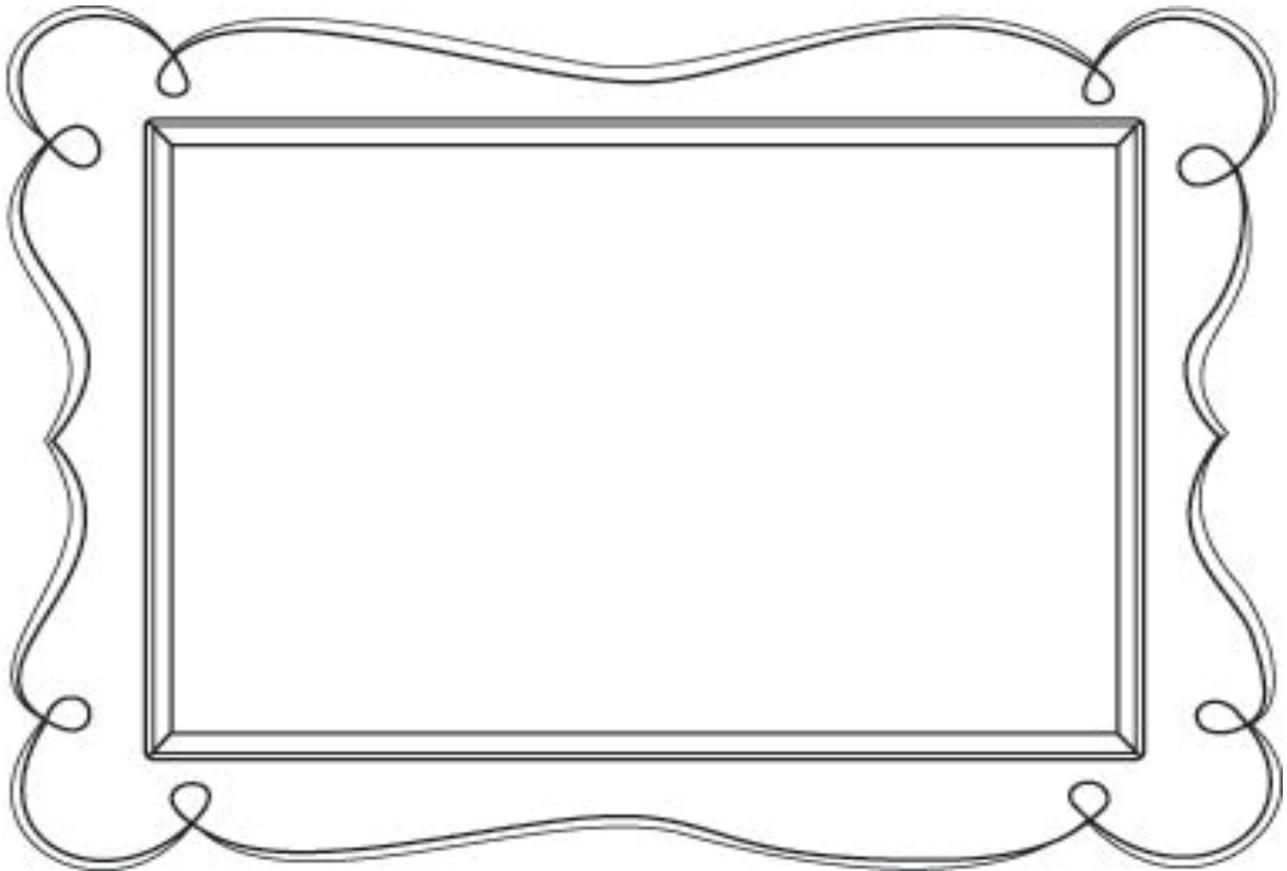
.....



This picture was drawn by a famous artist called LS Lowry. He sketched Jane Pit when he visited friends in Cleator Moor in the late 1940s and 1950s. The drawing is called *Landscape with Figures, Workington* and was finished in 1969.

Do you want to have a go at drawing Jane Pit? We'd love to see your picture, so make sure you show us a copy or you can email it to us later. Just add your name and age so we know who the artist is!

You can draw from any angle you like, using any colours you like. You can draw it as it is now, or imagine how it would have looked 150 years ago.



If you don't finish it today, you can take a picture and email it to us at hello@digventures.com.





During the excavation, we were joined on site by 29 volunteers from Workington and the local area.



Laura, a Workington-born archaeology student, worked with us for the whole dig. She was keen to develop her skills on-site and gain experience in excavation and survey.



Philip, Robin and Emma point out where they think the yard surface is at Trench 4, Frostoms cottages, has just appeared.



Carol and Laura mark out the edge of a sondage, so they can define the rubble line from the ramp wall.



Simon shows us the digital images he has created between his volunteer digging days.



There's nothing quite like a cuppa to keep the team happy and ready for more...



Kian's great grandad and grandad both worked in Workington's coal industry.

This is a miners token from Haig Pit, which belonged to his great grandad.



The team was visited by ITV Border, and we made it onto the local news broadcast.

The presenter interviewed Head of Fieldwork, Chris Casswell as well as other members of the DV team and volunteers.